

Witherslack

A rural estate, home to a diverse range of activities

The 20,234-hectare Morecambe Bay Limestone and Wetlands Nature Improvement Area (NIA) is one of Britain's most important areas of biodiversity and the beneficiary of ongoing investment (European funding) encompassing criteria such as sustainability and woodfuel.

In south Cumbria, the 800-hectare Witherslack Estate sits in the heart of this NIA and is a good example of how a rural estate can benefit both conservation and the wood-fuel economy. The wider estate lends itself to a diverse range of activities, from tenanted farms and a plant nursery to rented estate cottages and rentable workshops in old, converted farm buildings at Halecat Yard.

Witherslack's woodlands have been producing firewood since the Iron Age (800BC to 100AD), and directly for the Stanley family since the Battle of Bosworth Field in the fif-

teenth century. Their 370 hectares of mainly broadleaf woodland form the largest 'Area of Semi-Natural Woodland' (ASNW) in Cumbria, and are designated Sites of Special Scientific Interest 1 (Whitbarrow SSSI covers most of the Witherslack Woods, although most of Halecat Wood is excluded) and Special Areas of Conservation 2 (Morecambe Bay Pavements SAC).

Ironically, it was the 60 hectares of softwood planted across the estate by Nick's father that revitalised the estate's woodland management. Current steward Nick Stanley explains: "Eight years ago, Natural

England decided that the national priority was to remove softwood from ASNW sites and replant with native broadleaf. In order to do that, I needed professional advice, and, through Cumbria Woodlands, met forestry advisor Graeme Mactavish. The first operation he advised us on was the measuring, clearfelling and removal of a three-hectare block of larch in our Northern Woods."

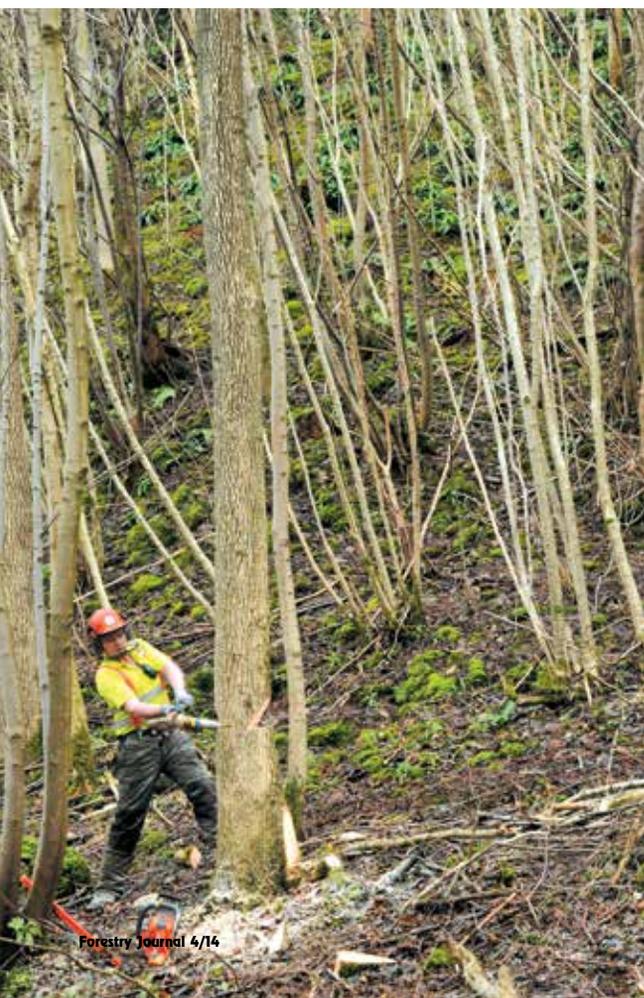
If the name Witherslack sounds familiar, you may have read about the launch of their new firewood business – which coincided with 2008's oil price hike – in December 2009. Back then, three forestry workers and an apprentice cut the timber. The roundwood was extracted back to the yard on a Patruuna 860 forwarder, pulled by a guarded Valmet tractor. All logs were processed through a Posch Spaltfix 3100 firewood processor, the logs stored in aerated bags and left to dry in polytunnels until delivery to customers on a Land Rover Defender tipping truck with trailer.

Five years on, scanning the wood-yard reveals that the method and machinery used for firewood processing remains the same. What is different are the piles of hardwood round timber stacked behind purpose-built log-drying barns, the brash bales stacked beside a new boiler house, the amount of machinery in the yard and the advisors and funders working together and discussing the coming year's management plans with Nick Stanley.

Growing up on the estate, Nick remembers Witherslack's woods

supporting a forestry team of fifteen. He left the estate to study engineering at Durham University and followed a career in stage carpentry as director of Liverpool's Everyman Theatre. Returning to Witherslack in 1989, two woodsmen remained. "I returned just as I was becoming a Labour Councillor in Liverpool, where the 1991 census revealed that 50% of men my age were economically inactive. We did receive some grants to manage the woods, but the price offered for softwood was so low it was not worth cutting. A forestry team was not economically viable, but to run an estate that did not provide work for anyone would be to run an estate without its soul."

In 2007 Graeme wrote a Woodland Management Plan, developing a rolling programme of works across the estate. He says, "All timber was to be felled by hand and extracted by smaller-scale machinery (the estate also uses horses). Around a third of the softwood plantations on SSSIs have been felled. The timber is sold into a variety of markets (logs, fencing, firewood) and has been used on the estate to construct the boiler house and drying sheds. Restocking of these areas is largely by natural regeneration of broadleaves. This year we are due to plant around 15 hectares of new native broadleaved woodland (oak, alder, aspen, birch, rowan, small leaved lime etc.). The remaining softwood will be thinned and removed over time. Currently, we are targeting four hectares of good quality larch before it gets diseased. We are also keeping a watchful eye on the spread of ash disease (*Chalara*), it being one of the major



On a steep slope among the out-of-rotation coppice with standards, Jamie King cuts a high stump on an ash standard. On inspection, when dressing the tree and cleaning up the buttress, he discovered so much butt rot that he could get his hand inside the tree.

The high stump ensures there is a good hinge on the tree when Jamie hammers in the wedge and finally knocks the stem over onto the brash mat.



In the Witherslack woodyard, advisors, funders and implementers discuss the coming year's management plans. (Left to right) funder, Dave Wainwright (Butterfly Conservation), forestry advisor Graeme Mactavish, Nick Stanley – steward of Witherslack Estate. Matt Brindle's dog Bronx sits in the basket on the front of the AGT tractor with mini forwarding trailer, getting personal with funder and advisor James Anderson-Bickley (Local Partnerships Advisor FC North West).

broadleaf species on the limestone soils."

Witherslack's 300 hectares of broadleaf coppice and coppice with standards is slowly being brought back into rotation following a regime of continuous cover forestry. Graeme says, "So far we have brought 10% back into manage-

aim is to develop a mosaic of different age classes across the estate that will continually serve all aspects of woodland management and production."

Nick says, "Butterfly Conservation came to see me five years ago. They said that certain species were



The man in charge, head woodsman John Park (now in his 28th year at Witherslack) in the foreground, with yard manager Ian Tredwell, about to turn a large, bent, hardwood stem into firewood on the Posch Spaltfix firewood processor.

ment. This year, coppice work is scheduled over 8 hectares (24 hectares over the next three years), much from around Halecat, but also on the steep slopes of Yew Barrow [behind the woodyard], in the Northern Woods and on a new site we are working for conservation. Like all plans, it is not set in stone. Our felling regime was first geared towards firewood production; we added more for biomass and incorporated conservation. The

on the edge of extinction unless I did something about it. How could I refuse? They provided the support and the means [funding] and it has become a very productive partnership."

Butterfly Conservation's Dave Wainwright elaborates: "Morecambe Bay limestone woodland is a stronghold for six key butterfly species, including the High Brown Fritillary, which breeds in areas of recently coppiced wood-

land."

Butterfly Conservation has provided two rounds of (three-year) funding. "The first project (funded by GrantScape) included working in small, unconnected woodlands. The owners liked their trees but did not like cutting them. In order for conservation to work, we need landowners like Nick, who understand management and control large areas of woodland. Our second project (funded by SITA, a landfill tax redistributor) is bringing further areas of coppice back into management, facilitating a continuous and sequential 20-year rotation.

tractor. Ian Tredwell (yard manager) processes the roundwood timber into firewood that drops off the conveyer into dumpy bags.

Nick says that the polytunnels of five years ago did not survive the gales. Today, dumpy bags are loaded onto pallets, and, using either the JCB Telehandler or Merlot Telehandler with rotating grab, are stacked in rows, three high, inside two purpose-built 100-square-metre open-sided drying barns. There are currently 500 tonnes of firewood in stock.

Opposite the newest building in the



Yard (and boiler) manager Ian Tredwell skewers a brush bale with a spike attachment on the Komatsu 15 forklift ready to feed the FARM2000 161kW biomass boiler.

Butterflies fail to find isolated coupes. Without connectivity between blocks, they do not move and breed. James Anderson-Bickley (local partnership advisor for FC North West) has provided grants, enabling us to clear six kilometres of rides."

Volunteer groups surveying newly coppiced woodland blocks found that only 20% had been colonised by the High Brown Fritillary. Dave says, "Last summer [three hot weeks] was good for them. The two previous were too wet. Across the six species, 49% of the clearings recorded at least one species. In the Northern Woodlands, some blocks have recorded all six."

Nick walks me around the firewood yard, starting with the 400 tonnes of roundwood sycamore and ash, stacked (felled as part of the ongoing woodland management and conservation work) and left drying for a year. Head woodsman (and firewood deliverer) John Park then loads them onto the log deck of the Posch Spaltfix using the Patruuna 860 forwarder pulled by the Valmet

yard, a boiler house, scaffolding supports bales of biomass. In 2011, Witherslack invested £180,000 in a FARM2000 161kW biomass boiler (with a 27,000-litre buffer tank and 200 metres of underground infrastructure) to heat six converted farm buildings. The boiler was chosen specifically because it burns coppice material (20–30% moisture) that has no value elsewhere.

Nick says, "It is wrong to tell the Brazilians to stop cutting down their rainforests if we do not make proper use of our own resource. Tenants prefer to know what they will be paying up front, so we charge for heat within the rental price. We receive £18,000 a year via the Non-Domestic RHI."

A second district heating installation at Witherslack Hall, now rented by a school, has been on hold for eight months. This is due, in part, to the Coop Bank ceasing business lending during its 'time of difficulty'. "Although we do not know the exact heat load, we have a supply agreement with the school, an RHI system that works, a boiler design and consent to build the boiler



The 16-hectare ASNW roadside worksite. Matt says that the biggest challenge of working in these woods is keeping the road clean. "It costs us quite a bit in time – about an hour a day – and labour."

house." Resurrecting the bank loan is proving difficult.

Between the boiler house and two bright red shipping containers (containing a new office and store room), a relatively new, green Claas tractor with winch reflects colourfully in a puddle. New staff member and head of Witherslack's 'felling four' Matt Brindle starts the motor of a new AGT tractor with mini forwarding trailer (2.3 tonnes capacity) and drives to the Northern Woods.

Nick says, "Last spring, we received RDPE funding (60%) to buy new kit and to take on an extra member of staff and an apprentice. While forestry machinery gets larger, we are intentionally buying smaller machines. For us, the next phase of forestry is about getting into complicated spots, especially if we win contracts to manage other woods like ours. Our woodland is on bad land; all the good land has been cleared [for farming]." To illustrate, he points to Yew Barrow growing on a gradient of one in two, and adds, "Not quite a cliff."

In 2009, the cost to Witherslack of processing firewood was £20 a tonne. By 2012, it had reached £80. Correspondingly, the sale price has risen from £40 per tonne to £120–£160 depending on the moisture content. Some of Witherslack's 300 customers buy one bag a year. Others, such as Liverpool's 'Camp and Furnace' (voted second in *The Times*' Food Section's Coolest Restaurants of 2013) take ten tonnes of 70cm logs (cut from oversized hardwood roundwood) every five weeks.

In 2013, Witherslack cut 1,500 tonnes of timber. They aim to sell 1,100 tonnes of green, barn-dried and kiln-dried firewood, keeping 400 tonnes for their own biomass use. In winter 2011/12 they sold 40% more firewood than in the previous year, selling out, as they did again in winter 2012/13.

"This year, we are far more organised. We may have reached the point where the yard is full year-round. As soon as one bay sells, it is filled up again, enabling us to sell high-grade, barn-dried

firewood all the time."

We take a quick look at Witherslack Hall before driving back to the Northern Woods work site. From the road, Nick points beyond a plantation of soon-to-be-felled larch to the three-hectare site first cleared when Graeme joined the Witherslack team. To everyone's surprise, the area has been colonised by butterflies. Dipping back into ASNW, Nick slows down beneath the crowns of 70-foot-plus oaks with stems free of branches, an indication that they were once high-pruned, which shows how big the workforce must have been a hundred years ago. Around the corner from the worksite, Nick points up to trees he has great respect for – a group of substantial yews that have spent centuries growing on what is essentially a limestone escarpment with little or no soil.

Amid the standing stems of the 16-hectare ASNW, out-of-rotation coppice with standards roadside worksite, hand-fallers Jamie King, Andrew Jopson and Otto Nelson (apprentice) place coppice products and bound brush bales in neat piles at roadside.

Matt says, "Graeme wants us to create open spaces with small pockets of habitat. There is some alder, but the bulk of what we are cutting is hazel, ash and sycamore. We are leaving the cherry and any nice looking ash for now." Matt adds that every sycamore taken down today has had squirrel damage. Nick muses that this is what conventional forestry looked like before clearfelling became the norm.

The felling team is nearing the end of an intense period of cutting. The log yard is full. They will move onto deer fencing and planting up to 15 hectares of new woods on poor farmland that has reverted to wood of its own accord.

Replanting is getting complicated. Nick says, "Historically, we would plant a high proportion of ash, filling in with oak, birch, yew and aspen. Ash makes up 80% of our



The Witherslack felling team on a log on the roadside worksite in the Northern Woods. Front to back, Jamie King, Matt Brindle, Otto Nelson, Andrew Jopson and Nick Stanley, plus James Anderson-Bickley.

woods. *Chalara* has been seen nearby. It is likely that our ash will die within ten years, leaving the area completely bare. There is a conservation prejudice against sycamore because not much grows under it. For us, it grows extremely fast, plants itself with huge strength and dries into good firewood. My thought is to use aspen and, if global warming has advanced far enough for it to grow successfully this far north, chestnut. We will have to see what advice we get."

Witherslack's firewood business started making a profit three years ago. Nick's forestry goals include continuing to take sustainable amounts of timber that the team can fell and sell happily, and learning how to make better use of it. "This business is also about the people. I think the industry is going to see a huge explosion [in the amount of people working within it]. Here, we have the right balance of age and experience and are at the organisational size where we can all still sit around a single table. If we grew, how would we manage it? We have a good sustainable enterprise; the business is as good as it gets without getting formal."

www.witherslackwoodlands.co.uk

Carolyne Locher

Sites of Special Scientific Interest

Whitbarrow SSSI covers most of the Witherslack Woods, although most of Halecat Wood is excluded. The designation applies in particular to the varied ground vegetation (with areas of both calcareous and acidic communities), woodland and limestone pavement.

Special Areas of Conservation

Morecambe Bay Pavements SAC includes the main areas of Witherslack woodlands, but excludes Halecat Wood and Nichols Wood. Noted as important are the tilio-acerion woodlands (those in ravines and at the foot of calcareous slopes), the Sessile oak and yew woods and the juniper communities associated with calcareous grasslands (blue moor-grass, limestone bedstraw) of which there are some on Yew Barrow. Witherslack Mosses SAC (Nichols Moss) adjacent to Nichols Wood (part of which is included in the SAC) and Halecat Wood, is considered to be one of the best active and recovering raised bogs in Britain.